

METHOD AND SYSTEM FOR FEEDING AND BURNING A PULVERIZED FUEL IN A GLASS MELTING FURNACE, AND BURNER FOR USE IN THE SAME.

ABSTRACT

A method and system for feeding and burning pulverized fuel, such as petroleum coke, in a glass melting furnace, which includes a glass melting and a plurality of burners associated with a pair of sealed regenerative chambers disposed side-by-side which act as heat exchangers, the burners are arranged in a series of ports that are associated with the glass melting region of the furnace. The system includes means for supplying the pulverized fuel by each one of the burners for melting glass raw materials. The emissions of flue gases produced by the combustion process of the fuel in the furnace are controlled in order to maintain clean the flue gases and for reducing the emission of impurities from the fuel such as SO_x, NO_x and particulates. The regenerative chambers are manufactured with selected refractories such as, magnesium, zircon-silica-alumina or magnesia and zirconium-silicate, for counteracting the erosive and corrosive effects produced by the combustion process of the fuel in the glass melting chamber. A burner is also provided for feeding the petroleum coke, the burner including means to simultaneously mix a primary air and pulverized fuel-air mixture for the burning of the pulverized fuel.